

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1-5 (canceled)

6.(new) A method for achieving a high-resolution 3D reconstruction of a crystal, comprising the step of growing a crystal in a way known in the art characterized by the steps of Vitrifying a sample of the microcrystals for cryoTEM

Recording a tilt series

Obtaining a first 3D reconstruction using an iterative reconstruction method in which a prior prejudice distribution is refined in at least one step on the basis of a comparison with the collected image information.

7.(new) A method according to claim 6, further comprising the step of crushing the crystal into microcrystals.

8.(new) A method according to claim 6, wherein the iterative reconstruction method is the a filtered backprojection followed by the COMET procedure.

9.(new) A method according to claim 8, further comprising the step of:

if the sample is of high quality, determining the repetitive structure of the crystal and, if possible, the space group of the crystal.

10.(new) A method according to claim 9, further comprising the following steps:

If the space group could be determined, refine the geometry and obtain a second 3D reconstruction including information about the space group.

11.(new) A method according to claim 10, further comprising the following step:

if the space group could not be determined, perform correlation averaging on the sample.

12.(new) A method according to claim 7, wherein the iterative reconstruction method is the a filtered backprojection followed by the COMET procedure.

13.(new) A method according to claim 12, further comprising the step of:

if the sample is of high quality, determining the repetitive structure of the crystal and, if possible, the space group of the crystal.